



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,990	12/11/2003	Michael F. Mattes	P-10330.00	1395
27581	7590	06/16/2005	EXAMINER	
MEDTRONIC, INC. 710 MEDTRONIC PARKWAY NE MS-LC340 MINNEAPOLIS, MN 55432-5604			GREENE, DANA D	
			ART UNIT	PAPER NUMBER
			3762	

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

28

Office Action Summary

Application No.

10/732,990

Applicant(s)

MATTES ET AL.

Examiner

Dana D. Greene

Art Unit

3762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/23/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Independent claims 1 and 19 and dependent claims 4-7, 9-13, 20-22, 25-29 stand rejected under 35 U.S.C. 102(b) as being anticipated by Stokes (US 5,115,291, hereinafter "Stokes"). Stokes is considered to disclose:

an accelerometer of an implantable medical device having a first terminal corresponding to a first plate of a first capacitor, a second terminal corresponding to a second plate of said first capacitor and a first plate of a second capacitor, and a third terminal corresponding to a second plate of said second capacitor (see col. 1, ln. 46-50, col. 3, ln. 35-40, and col. 7, ln. 10-20, Stokes). The disclosed accelerometer is considered to anticipate the claimed solid-state accelerometer because both devices gather a patient's physical activity for interpretation by circuitry including first and second capacitors coupled to respective terminals;

the accelerometer comprising a first substrate coupled to the first terminal of the accelerometer, said first substrate being said first plate of the first capacitor (see col. 2, ln. 24-30, Stokes). The disclosed plate 12 is considered to anticipate the claimed first substrate because both components are one of several parallel layers of material arranged on top of another parallel layer;

a second substrate bonded to said first substrate, said second substrate comprising a moveable mass coupled to the second terminal of the accelerometer, said moveable mass being the second plate of the first capacitor and a first plate of the second capacitor; at least one spring coupled to said moveable mass and said second substrate (see col. 2, ln. 25-30 and col. 3, ln. 57-66, Stokes). The disclosed silicon support, flexures, and pendulum are considered to anticipate the claimed second substrate, spring, and moveable mass because silicon support includes a moveable mass which is the pendulum that is coupled to the substrate or silicon support by the flexure device which manages the movement of the moveable mass;

a third substrate bonded to said second substrate, said third substrate coupled to the third terminal of the accelerometer, said third substrate being the second plate of the second capacitor, wherein the moveable mass is prevented from moving in a direction that inelastically flexes the at least one spring (see col. 2, ln. 25-30 and col. 6, ln. 1-5, Stokes). The disclosed plate 16 is considered to anticipate the claimed third substrate because both components are bonded to the second substrate or silicon support while corresponding to the second plate of the capacitor.

With reference to claims 4-6, 20-22, and 29 Stokes is considered to disclose substrates comprised of silicon and substrates fusion bonded together with an oxide layer (see col. 1, ln. 38-40, col. 2, ln. 42-45, and col. 5, ln. 1-11, Stokes). The disclosed components are considered to anticipate the claimed substrate composition because both devices employ the use of conductive material and bonding with an oxide layer to ultimately provide stable bonding and fusion.

Referring to claims 7 and 9-11, 27, 28, Stokes is considered to disclose electrical contact regions (see col. 2, ln. 48-56, Stokes). The disclosed separate electrical connections are considered to anticipate the claimed electrical contact regions because both configurations are on a major surface of the substrate and correspond to terminals of capacitors.

With regards to claims 12, 13, 25, and 26, the Stokes reference is considered to teach a moveable mass suspended by springs (see col. 2, ln. 20-30 and col. 3, ln. 57-66, Stokes). The disclosed flexures are considered to anticipate the claimed springs because both components allow the moveable mass to move in a certain direction and hold the moveable mass to prevent movement in subsequent directions.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 3, 23, and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Stokes in view of Sikorski et al. (US 5,911,738, hereinafter "Sikorski"). Stokes is considered to disclose the claimed invention as discussed above, under the anticipatory rejection, except for the claimed over travel stop configuration. However, Sikorski is considered to teach this configuration (see col. 12, Ln. 5-15, Sikorski). It would have been obvious to one of ordinary skill in the art to combine the teachings of Stokes with the stop teaching found in Sikorski for the purpose of limiting the movement of the moveable mass in the vertical direction.

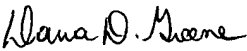
Claims 8 and 14-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Stokes in view of Chen et al. (US 5,954,751, hereinafter "Chen"). Stokes is considered to disclose the claimed invention as discussed above, under the anticipatory rejection, except for the claimed flip chip configuration. However, Chen discloses this flip chip arrangement (see col. 5, ln. 40-47, Chen). It would have been obvious to one of ordinary skill in the art to combine the teachings of Stokes with the flip chip configuration taught in Chen for the purpose of making a smaller implantable medical device for the benefit of the patient.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana D. Greene whose telephone number is (571) 272-7138. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-7138. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Dana D. Greene


Kerl Schaetzle
Primary Examiner